

## SELF-CONTROL, DESIRE, AND SEXUAL BEHAVIOUR

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## Abstract

Poor self-regulation has been associated with infidelity and increased sexualised behaviour (Gailliot & Baumeister, 2007; Love, 2006). In the present paper we introduce a caveat to these findings by showing that people with lower self-control are more likely to act in accordance with their sexual desires, but may not necessarily be more sexually disinhibited. Study 1 ( $N = 331$ ) found that sexual desire positively predicted reported infidelity frequency for people with low, but not high, dispositional self-control. Study 2 ( $N = 120$ ) found that stronger sexual desires predicted increased infidelity intentions, sitting closer to an attractive stranger in an imagined scenario, and asking this person out in a hypothetical encounter, but only among people who had been depleted of their self-control resources. Sexual desires were unrelated to all constructs when participants' self-control was dispositionally high (Study 1) or not depleted (Study 2), and no main effects emerged of self-control on any imagined or self-reported romantic behaviours. Our findings suggest that when self-control is high, sexual behaviour may be largely divorced from desire, relying instead on analysis of situational or other cognitive factors. Sexual behaviour may reflect genuine sexual predispositions, however, when self-control is dispositionally low or temporarily impaired.

*Keywords:* Ego depletion; self-control; self-regulation; sexual behaviour; sexual desire

Stronger sexual desires only predict bold romantic intentions and reported infidelity  
when self-control is low

Acting in a manner contrary to one's sexual desires occurs in many contexts. People in committed relationships may need to resist sexual temptations to remain faithful to their romantic partner. Sexual desires may also be restrained out of fear of rejection or social stigma if romantic advances are not reciprocated. Conversely, people with weaker sexual desires may feel social pressure to pursue romantic relationships, and therefore override their automatic responses to avoid romantic situations. Interestingly, the role of desire has received little attention in the self-regulation literature (Hofmann & Van Dillen, 2012), however desires may be important determinants of behaviour when self-control is weak and desires are unable to be restrained or overridden. Here, we test whether poor self-regulation leads to self-reported and imagined romantic behaviour (infidelity, flirting, and courting) that is consistent with people's underlying sexual desires.

The self-control literature is replete with evidence that low self-control leads to more disinhibited, impulsive, and approach-oriented behaviour (e.g., Apfelbaum & Sommers, 2009; DeWall, Baumeister, Stillman, & Gailliot, 2007; Schmeichel, Harmon-Jones, & Harmon-Jones, 2010). However, new research is emerging that suggests that large individual differences exist in how people behave when self-control is unavailable (Gailliot & Baumeister, 2007; Muraven, Collins, & Nienhaus, 2002). One possible explanation for this is that it is the strength of people's underlying desires that determines how they will behave when self-control is not available.

As a general construct, desire is an urge to gain pleasure, relieve discomfort, or satisfy a particular want. It is an affectively charged event that is focused on a particular object or person (Kavanagh, Andrade, & May, 2005). Sexual desire refers to a wish or need to seek

out sexual objects or engage in sexual activities (Regan & Bersched, 1996). This drive is often accompanied by sexual arousal and/or sexual fantasies (Penke & Asendorpf, 2008).

In the sexual sphere, previous research examining dispositional self-control suggests that people with low self-control are more likely to engage in a wide range of sexual behaviours, including masturbation, pornography use, and infidelity (Love, 2006). Low dispositional self-control is also associated with stronger preferences for uncommitted sex (Gailliot & Baumeister, 2007) and more negative attitudes toward sexual abstinence (Wills, Gibbons, Gerrard, Murry, & Brody, 2003). While informative, these studies do not elucidate what factors guide sexual behaviour when self-control is either chronically low, or as described below, temporarily depleted.

The strength model of self-control proposes that self-control is a limited resource and that acts of self-control in one domain lead to self-control deficits in subsequent unrelated domains. When this occurs, one is said to be in a state of *ego depletion* (Baumeister, Bratslavsky, Muraven, & Tice, 1998). Previous research has shown that ego depletion can lead to impulsive behaviours, including overeating (Vohs & Heatherton, 2000), aggression (Denson, von Hippel, Kemp, & Teo, 2010; DeWall et al., 2007), and more sexualised behaviour (Gailliot & Baumeister, 2007). Other findings, however, suggest that the relationship between depletion and impulsive behaviour is more nuanced and depends upon the interaction between people's dispositional tendencies and available self-control resources (Gailliot & Baumeister, 2007; Muraven et al., 2002). Relevant to the current line of enquiry, Gailliot and Baumeister (2007) found that depletion increased anticipated future infidelity to a greater extent among people who were sexually unrestricted compared to people who had more conservative attitudes toward casual sex. Thus, behaviour is not only dependent on whether or not self-control has previously been exerted, but may also depend on underlying dispositions or impulses.

In sum, although one may have strong desires to enact a particular behaviour (e.g., ask an attractive stranger out on a date), often it is not easy to do so because one fears rejection or has a long-term partner. Similarly, one may have weak desires to approach an attractive stranger, but nevertheless still engage in courting and sexual behaviour due to social norms around dating, or a knowledge that a romantic relationship carries with it personal benefits. Consequently, people's underlying desires may not be reflected in their romantic behaviour when self-control is available. When self-control is unavailable, however, people's underlying desires (whether they are strong or weak) may be more likely to be mirrored by their romantic behaviours. Accordingly, we would expect that core motivations (desires) would be strongly associated with people's behaviour when self-control is low, and less so when self-control is high.

### **Study 1**

The aim of Study 1 was to assess the relationship between sexual desire and retrospective accounts of infidelity at varying levels of dispositional self-control. We predicted that people with low self-control would be less able to behave contrary to their sexual desires, and that these desires, therefore, would flow through to their romantic behaviour. Thus, sexual desires were expected to positively predict self-reported infidelity for people with low self-control. For people with high self-control, however, we expected their sexual desires and reported engagement in infidelity to be independent of one another.

### **Method**

#### **Participants.**

In total, 321 participants (85% USA residents) attempted the survey online. They were all reimbursed with points that could be exchanged for gift vouchers. There were 164 men, 155 women, and 2 people who did not identify as either male or female. Just over half of the sample (55.5%) indicated that they were in a relationship, and ages ranged from 18 to

67 years ( $M=26.03$ ,  $SD=7.95$ ). As less than 5% of data were missing we utilised listwise deletion to account for missing data in each analysis.

### **Measures.**

#### ***Dispositional self-control.***

Participants completed the Brief Self-Control Scale (Tangney, Baumeister, & Boone, 2004), which is a 13-item questionnaire that includes response options ranging from 1 = *not at all* to 5 = *very much*. Participants rated the extent to which each statement reflects how they perceive themselves (e.g., “I am good at resisting temptation”). All items were averaged to form a reliable scale,  $\alpha = .83$ .

#### ***Sexual desire.***

Participants were asked to indicate their typical level of desire to have sex by moving a slider along a continuum that ranged from 0 = *no desire at all* to 100 = *extreme desire*. Post-analysis validation of this item suggests that it is a reliable measure of sexual desire. We recruited 139 participants via social media and found that our measure of sexual desire was highly correlated with other measures of sexual desire, such as the Sexual Desire Inventory (SDI; Spector, Carey, & Steinberg, 1996;  $r(135) = .61$ ,  $p < .001$ ) and the desire subscale of the Sociosexual Orientation Inventory (SOI desire; Penke & Asendorpf, 2008),  $r(132) = .33$ ,  $p < .001$ . In addition, the item was associated with known correlates of sexual desire, including masturbation frequency ( $r(135) = .25$ ,  $p = .003$ ), sexual intercourse frequency ( $r(125) = .26$ ,  $p = .003$ ), and desire for multiple sexual partners,  $r(132) = .34$ ,  $p < .001$ .

#### ***Infidelity.***

Participants were asked to report on a binary scale (1=Yes/0=No) if they had ever cheated on someone with whom they were in a committed relationship. Further, participants were asked to indicate the total number of times that they had cheated on a romantic partner, and the total number of extra-pair partners that they had had over the course of their lifetime.

## Results

A hierarchical logistic regression was conducted to test the effects of self-control and sexual desire on reported infidelity (0 = no previous infidelity, 1 = previous infidelity; Table 1). We found that neither self-control nor sexual desire uniquely predicted whether or not participants reported cheating on a partner. There was, however, a significant interaction between self-control and sexual desire on reported infidelity. Simple slopes revealed that there was no relationship between sexual desire and reported infidelity among people with high self-control. However, for people with low self-control, stronger sexual desires predicted an increased likelihood of reporting infidelity on at least one occasion.

We also examined whether sexual desires would predict more reported instances of cheating (infidelity frequency) and more reported extra-pair partners among those participants who had cheated at least once. As shown in Table 1, hierarchical regressions revealed that neither self-control nor sexual desire uniquely predicted infidelity frequency; however, the interaction between self-control and sexual desire was marginally significant. Follow-up simple slopes analyses indicated that there was no significant relationship between sexual desire and infidelity frequency for participants with high self-control. Conversely, stronger sexual desires significantly predicted more reported instances of infidelity among people with low self-control.

A final regression analysis that included self-control and sexual desire predicting number of reported extra-pair partners among people who had cheated on at least one occasion is also presented in Table 1. At Block 1, stronger sexual desires significantly predicted reporting more extra-pair partners, while self-control was unrelated to number of reported extra-pair partners. At Block 2, the interaction between self-control and sexual desire was significant. Simple slopes revealed that sexual desires were not related to number of reported extra-pair partners among people with high self-control. However, stronger sexual

desires significantly predicted more reported extra-pair partners among people with low self-control.

### **Gender and relationship status**

Controlling for gender and relationship status did not affect the direction or significance of the reported effects.

### **Discussion**

In line with predictions, we found that participants' sexual desires predicted whether or not they reported cheating on a partner *only* if they had low dispositional self-control. Moreover, among those people who did report at least one instance of cheating, stronger sexual desires predicted reporting more extra-pair partners and more instances of cheating when self-control was low, but not when self-control was high. Thus, our findings suggest that people may be more likely to act on their sexual desires when they have low self-control and therefore find it more difficult to override their automatic sexual responses.

### **Study 2**

Study 1 supported our hypothesis that dispositional sexual desire would predict self-reported infidelity among people with low self-control. Questions remain, however, about the causal relationship. While we have proposed a desire-behaviour relationship moderated by self-control, a reverse causal path is possible. Therefore, in Study 2, we aimed to test our causal model by measuring sexual desire, manipulating self-control, and assessing their combined impact on multiple measures of imagined romantic behaviour in a novel, scenario-based experiment.

Just as people refrain from infidelity because it can damage relationships, people may also resist acting on sexual urges in more appropriate circumstances because of fear of rejection, embarrassment, or social stigma. Therefore, it is plausible that people also use self-control to inhibit bold and daring acts of romance such as approaching and asking out an

attractive stranger. Conversely, people with weak desires may use self-control to push themselves into romantic situations with attractive strangers, and depletion may therefore lead to more avoidant responses that are consistent with their weaker underlying sexual desires. In sum then, depletion may lead to bold and risky romantic behaviours that are consistent with one's sexual desires, even when the behaviour is more socially acceptable.

In Study 2 we tested whether ego depletion would moderate the relationship between sexual desire and both inappropriate and bold romantic behaviour in imagined scenarios. Imagined scenarios provide an efficient method for examining variables that are difficult to assess in the laboratory (e.g., infidelity), and they have been shown to produce responses that reflect actual reactions to situations and stimulus. For example, Garcia, Weaver, Moskowitz, and Darley (2002) have shown that the bystander effect emerges in imagined scenarios; people help less when imagining that they are in a crowded room. Moreover, participants asked to imagine a situation where they are cheated on by a partner display physiological responses (e.g., increased heart rate and blood pressure) that are consistent with what one would expect in the actual situation (Harris, 2000). Further, several studies on intergroup contact demonstrate that imagined interactions with outgroup members have similar effects on outgroup evaluations and self-reported emotions when compared with responses to actual interactions (Turner, Crisp, & Lambert, 2007; Stathi & Crisp, 2008; Turner & Crisp, 2010).

Consistent with our findings in Study 1, we hypothesised that sexual desires would predict a higher likelihood of engaging in socially inappropriate sexual behaviour (e.g., cheating on a long-term partner) in an imagined scenario, but only for those people who had been depleted. We also aimed to establish whether this effect would extend to intentions to engage in bold and potentially embarrassing romantic behaviour, such as sitting closer to an attractive stranger and flirting with them in a hypothetical encounter.

## **Method**



**Participants.**

We recruited 120 undergraduate students (81 female, 39 male) who participated in the study for either course credit ( $n=83$ ) or AUD\$10 ( $n=37$ ). Ages ranged from 17 to 72 years ( $M=21.01$ ,  $SD=6.46$ ). Seventy-four participants indicated that they were single and 46 were in relationships. As less than 5% of the data were missing we employed listwise deletion in each analysis to account for missing values.

**Procedure.**

Participants were introduced to a “cognitive functioning task” adapted from previous research as a method of inducing ego depletion (Baumeister et al., 1998; Job, Dweck, & Walton, 2010; Tice, Baumeister, Shmueli, & Muraven, 2007). After being provided with a double-sided page of text, all participants were instructed to cross out every *e* on the page for five minutes. Next, half of the participants (control condition) were randomly assigned to continue crossing out every *e* for a further five minutes. The remaining participants (depletion condition) were asked to follow a complex rule that required crossing out every *e*, except for those *es* that were within two letters of any vowel. All participants then completed the romantic approach tasks, followed by the infidelity task, and lastly a questionnaire that included the dispositional measure of sexual desire and demographic questions.

**Sexual desire.**

The desire subscale of the revised Sociosexual Orientation Inventory (SOI-R Desire: Penke & Asendorpf, 2008) consists of three items that assess people’s desire to engage in uncommitted sex (e.g., “How often do you experience sexual arousal when you are in contact with someone you are not in a committed romantic relationship with?”; anchors: 1=*never*, 9=*at least once a day*). The SOI-R desire subscale has been demonstrated to have sound psychometric properties, and has been used extensively in published research. The scale has been found to be positively related to several psychological and behavioural indicators of

sexual desire, including sex drive, masturbation frequency, infidelity, and short-term mating interest for both men and women (Penke & Asendorpf, 2008). All items were averaged to form a reliable scale,  $\alpha=.85$ .

### **Distance to an attractive stranger.**

For our first measure of romantic intent, we used a pen and paper version of the seating proximity task where participants are able to decide where they would like to place their chair in relation to a confederate or other participant. Relevant to the current research question, how close people choose to sit to a confederate has been shown to be associated with romantic attraction (Allgeier & Byrne, 1973), likelihood of communication (Sommer, 1959), approval seeking (Rosenfeld, 1965) and likeability (Mehrabian, 1968). We adapted this well-established task so that it could be administered in the laboratory without the need for a confederate. Participants were presented with an image of a physically attractive person (matched headshots of professional male and female models) on the computer screen. Males viewed a female target and females viewed a male target. Participants were asked to draw themselves and the attractive stranger sitting at a table. For our dependent measure, using the outline of the drawn heads, we measured the shortest possible distance between the head of the participant and the head of the attractive stranger (to the nearest 0.5mm). Head area was also calculated for both the participant and the attractive stranger so that we could control for variations in drawing size.

### **Romantic intent.**

Using the same image presented on the screen during the drawing task, participants answered five questions related to the likelihood that they would display romantic intentions towards the target (e.g., “How likely is it that you would initiate the conversation with the man/girl from the picture?” and “How likely is it that you would flirt with the man/girl from the picture?”, anchors: 1=*not at all likely*, 9=*very likely*;  $\alpha=.63$ ).

**Infidelity scenario.**

Participants read a scenario in which they were to imagine that they were in a committed relationship with someone that had lasted for over one year. The scenario included an interaction with an attractive stranger who proceeded to flirt with the participant and ask them out to dinner. Participants then rated the likelihood that they would engage in various forms of infidelity with the person from the scenario. There were three positively scored items (e.g., “accept the invitation, and during the night, kiss them if the opportunity arose”) and two negatively scored items (e.g., “Tell them that you have a partner and are not interested in having dinner with them”, anchors: 1=*very unlikely* to 5=*very likely*). One of the negatively scored items (“Tell them that you are busy on the weekend but thank them for the offer”) showed poor fit with the other items and was therefore removed to improve the internal consistency of the scale, resulting in a 4-item measure of imagined infidelity,  $\alpha=.73$ .

**Results****Sexual desire.**

To confirm that the depletion manipulation did not influence participants’ responses on the sexual desire measure we conducted an independent-samples t-test. No differences in sexual desire were observed between the control ( $M=10.23$ ,  $SD=5.76$ ) and depletion ( $M=11.77$ ,  $SD=6.29$ ) conditions,  $t(118) = -1.39$ ,  $p=.166$ ,  $d= -.26$ .

**Distance to attractive stranger.**

To test the effects of depletion and sexual desire on our implicit measure of romantic intent (approach distance), we conducted a hierarchical regression. Head area measurements for both the participant and the attractive stranger were entered at Block 1 to control for variations in drawing size. Depletion and sexual desire were entered at Block 2, and their interaction at Block 3. At Block 1 the model was not significant,  $R^2_{adj}=.00$ ,  $F(2,114) = .749$ ,  $p=.475$ . Head sizes of both the participant ( $\beta=.04$ ,  $p = .744$ ) and the attractive stranger ( $\beta=.09$ ,

$p=.472$ ) were not associated with approach distance. At Block 2, the inclusion of depletion and sexual desire did not contribute significantly to the model,  $R^2_{\text{adj.}} = .00$ ,  $R^2_{\text{change}} = .02$ ,  $F_{\text{change}}(2,112) = 1.03$ ,  $p=.361$ . Specifically, neither depletion ( $\beta=.09$ ,  $p=.354$ ) nor sexual desire ( $\beta=-.11$ ,  $p=.233$ ) were associated with approach distance. At Block 3, the interaction term contributed a marginally significant portion of variance to the model,  $R^2_{\text{adj.}} = .02$ ,  $R^2_{\text{change}} = .03$ ,  $F_{\text{change}}(1,111) = 3.49$ ,  $p = .064$ . Follow-up analyses revealed that for people in the control condition, sexual desire was not associated with approach distance,  $\beta=.06$ ,  $p=.678$ , while for people in the depletion condition, higher sexual desire scores predicted shorter distances between the participant and the attractive stranger in the drawing,  $\beta=-.29$ ,  $p=.026$  (Figure 1).

### **Romantic intent.**

A hierarchical regression was conducted to examine the effects of depletion and sexual desire on participants' reported willingness to romantically engage with a physically attractive stranger. Depletion and sexual desire were entered at Block 1, and their interaction at Block 2. At Block 1, the overall model predicting approach behaviour was significant,  $R^2_{\text{adj.}} = .10$ ,  $F(2,115) = 7.31$ ,  $p=.001$ . Higher sexual desire scores predicted greater romantic intent,  $\beta=.33$ ,  $p<.001$ . Depletion, however, was unrelated to romantic intent,  $\beta=.27$ ,  $p=.271$ . The interaction term contributed a significant amount of variance to the model at Block 2,  $R^2_{\text{adj.}} = .12$ ,  $R^2_{\text{change}} = .03$ ,  $F_{\text{change}}(1,114) = 4.03$ ,  $p=.047$ . For people in the control condition, sexual desire was not associated with romantic intent,  $\beta=.15$ ,  $p=.269$ . Conversely, for depleted participants, higher sexual desire scores predicted greater reported romantic intent towards the attractive stranger,  $\beta=.48$ ,  $p<.001$  (Figure 2).

### **Infidelity scenario.**

To test the effects of depletion and sexual desire on expected infidelity in a hypothetical scenario, a hierarchical regression was performed. Sexual desire and depletion were entered at Block 1, and the interaction term was entered at Block 2. A significant

amount of variance in expected infidelity was accounted for at Block 1,  $R^2_{\text{adj}}=.07$ ,  $F(2,117)=5.40$ ,  $p=.006$ . Higher sexual desire scores predicted greater likelihood of infidelity,  $\beta=.29$ ,  $p=.001$ . Depletion, however, was not associated with expected infidelity,  $\beta=-.06$ ,  $p=.509$ . At Block 2, the interaction term contributed significantly to the model ( $R^2_{\text{adj}}=.09$ ,  $R^2_{\text{change}}=.03$ ,  $F_{\text{change}}(1,116)=3.98$ ,  $p=.048$ ). As shown in Figure 3, follow-up analyses revealed that for people in the control condition sexual desire was unrelated to expected infidelity,  $\beta=.10$ ,  $p=.428$ . For people in the depletion condition, however, higher sexual desire scores predicted a greater likelihood of infidelity in the hypothetical scenario,  $\beta=.43$ ,  $p=.001$ .

### **Gender and relationship status.**

When controlling for gender and relationship status all results remained significant in the reported directions with one exception. When controlling for both gender (-1=female, 1=male) and relationship status (-1= single, 1= romantic partner), sexual desire only marginally predicted infidelity intentions in the depletion condition,  $\beta=.25$ ,  $p=.058$ .

### **Discussion**

Study 2 examined the interaction between ego depletion and sexual desire on infidelity and courting intentions during imagined scenarios. Consistent with Study 1, we found that people's desires for sex predicted a higher likelihood of infidelity in an imagined romantic situation only when their self-regulatory resources were depleted. In addition, sexual desire predicted increased reported romantic intent towards an attractive stranger only for those participants in the depletion condition. Specifically, when people were depleted, stronger sexual desires were associated with sitting closer to an attractive stranger in a drawing, and reporting a greater likelihood of romantically engaging with them through initiating conversation and flirting. None of these associations emerged for people whose self-regulatory resources were intact. Further, there was no main effect of depletion on any of our measures of romantic intent or infidelity. Thus, depletion led people to report acting in a

manner consistent with their dispositional sexual desires in a diverse range of imagined romantic situations.

### **General discussion**

The present research examined the role of self-control and sexual desire in predicting taboo (e.g., self-reported cheating) and bold (e.g., asking out an attractive stranger in an imagined scenario) romantic behaviours using hypothetical scenarios and retrospective accounts of behaviour. In Study 1, we demonstrated that stronger dispositional sexual desires predicted a higher likelihood of reporting previous infidelity for people with low, but not high, self-control. In Study 2, we extended on these findings by showing that sexual desires predicted approaching and courting an attractive stranger in an imagined scenario, as well as hypothetical infidelity, only when participants were depleted. No main effects emerged of self-control on any romantic measures, suggesting that self-control failures may promote behaviours that reflect people's underlying sexual desires, rather than promoting universally disinhibited romantic behaviour.

### **Implications and future directions**

Our findings add nuance and depth to the existing self-regulation literature by demonstrating that ego depletion does not necessarily drive people towards more sexualised behaviour. Rather, we suggest that depletion allows underlying sexual desires to guide romantic behaviour. Of particular note, the pattern of results we observed in Study 2 suggests that depletion only impacted on people with weak sexual desires; pushing them away from bold and risky romantic situations. Consequently, rather than representing a behavioural catalyst for people with intense underlying sexual desires, depletion may actually allow people with weak sex drives to avoid situations where there may be risks of social embarrassment or rejection. This finding contrasts with much of the existing self-regulation literature, which suggests that depletion leads to a range of disinhibited behaviours

(Apfelbaum & Sommers, 2009; Denson et al., 2010; DeWall et al., 2007), and that people with stronger impulses are those most affected by depletion (Gailliot & Baumeister, 2007; Muraven et al., 2002). Indeed, it is possible that the opposite effect may be found among people with weak sexual desires. Specifically, people may feel social pressure to pursue romantic relationships. Depletion then relieves this pressure, thus allowing people to adopt their previously suppressed avoidant romantic strategies. Further research is required to confirm these propositions.

Another related avenue for future research involves identifying the specific barriers that prevent people from acting on their sexual desires. Here, we found that both single people and people in relationships report that they are less likely to behave in line with their desires when self-control is available. It is plausible, however, that single people and people in relationships avoid acting on their sexual desires for very different reasons. Pronk, Karremans, and Wigboldus (2011) demonstrated that executive control helps people in relationships resist attractive alternative partners in order to protect their relationship. Single people, however, have no romantic relationship to protect and therefore may suppress their sexual desires for other reasons, such as fear of rejection or embarrassment. Consequently, if people who are seeking relationships fail to act on their sexual desires because they have high self-control, this may have a negative impact on their romantic success. Although beyond the scope of the present studies, examining *why* single and partnered people suppress their sexual desires in romantic situations would be of interest in future research.

Theoretically, the dual-systems approach to self-control posits that human behaviour depends on automatic affective reactions to stimulus (impulsive system) and one's ability to override those reactions (reflective system) (Hofmann, Friese, & Strack, 2009). Thus, when the restraint system has been weakened by depletion, the impulsive system is more likely to determine behaviour. Our work is consistent with this conceptualisation, with one important

exception. Specifically, we found that explicitly stated, general levels of sexual desire predicted reported romantic behaviour when self-control was weak. Hofmann and colleagues, however, suggest that implicit reactions to a specific stimulus (e.g., through an Implicit Association Test), but *not* explicit attitudes towards a specific stimulus, predict behaviour when self-control is low (Hofmann, Rauch, & Gawronski, 2007). This raises the question of whether general levels of desire are analagous to the impulsive dimension of the dual-systems model, or whether desires are more closely tied to explicit attitudes. Future studies should examine the relationship between desires, implicit associations, and explicit attitudes, to determine how desires fit with the dual-systems model.

### **Limitations of the present research**

Although the present findings were consistent across multiple studies, measures, and situations, there are some important limitations to consider. First, the dependent measures used in Study 2 involved imagined interactions, and it is therefore unclear whether the effects of depletion on romantic behaviour would extend to face-to-face interactions. Although, imagined interactions provide a reliable analogue of actual behaviour (Garcia, Weaver, Moskowitz, & Darley, 2002; Harris, 2000; Turner, Crisp, & Lambert, 2007; Stathi & Crisp, 2008; Turner & Crisp, 2010), the imagined interactions used in Study 2 involved no actual risk of rejection, embarrassment, or relationship breakdown. Thus, our findings relating to the impact of self-control failures on socially risky romantic behaviour should be interpreted with some caution. Second, our measures of infidelity reported in Study 1 were based solely on self-report surveys, and were therefore susceptible to social desirability effects and reporting biases. We did, however, attempt to minimise these issues by assuring participants at the beginning of the survey that their responses were completely anonymous.

The extent to which our results generalise to other contexts should also be taken into account when interpreting the findings. Specifically, we have shown that sexual desires



predict reported romantic behaviour when self-control is low. However, the measures that we used in our studies involved targets (e.g., past extra-pair partners and highly attractive photos of potential partners) that participants presumably found attractive. While it is plausible that depletion may lead people to act on their sexual desires towards *any* romantic target when self-control is low, target attractiveness may be an important moderator of our observed effects. Future studies investigating whether our results extend to romantic intentions towards targets who participants find undesirable would be of particular interest.

## **Conclusions**

Bold and risky romantic behaviour is the end result of a conflict between desire and restraint. Our work suggests that when restraints are weak, sexual desires are exposed and behaviour ensues that mirrors those desires. Over two studies we provide evidence that sexual desire is a reliable predictor of intentions to engage in daring romantic behaviour, but only when self-control has been taxed by previous self-control efforts or is dispositionally low. We add to the ego depletion literature by demonstrating that self-control deficits are not necessarily associated with bolder, more approach-oriented, or less inhibited behaviour; rather, self-control failures may allow people to act in ways that reflect their underlying desires, resulting in either avoidance or approach responses. Specifically, our results suggest the depletion may steer people with low sexual desire away from romantic situations, and thus provides evidence that depletion leads to avoidant behavioural responses under certain conditions. We demonstrate that these effects apply to several types of romantic pursuit that emerged using retrospective accounts of actual behaviour, imagined interactions, and drawing measures. The present findings have implications for future studies examining motivations underlying desire suppression, and assist in the development of models explaining the effects of self-control failures on behaviour.

### References

- Allgeier, A. R., & Byrne, D. (1973). Attraction Toward the Opposite Sex as a Determinant of Physical Proximity. *The Journal of Social Psychology*, 90(2), 213-219. doi: 0.1080/00224545.1973.9712561
- Apfelbaum, E. P., & Sommers, S. R. (2009). Liberating Effects of Losing Executive Control. *Psychological Science*, 20, 139-143.
- Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego Depletion: Is the Active Self a Limited Resource? *Journal of Personality and Social Psychology*, 74(5), 1252-1265.
- Denson, T. F., von Hippel, W., Kemp, R. I., & Teo, L. S. (2010). Glucose consumption decreases impulsive aggression in response to provocation in aggressive individuals. *Journal of Experimental Social Psychology*, 46(6), 1023-1028. doi: 10.1016/j.jesp.2010.05.023
- DeWall, C. N., Baumeister, R. F., Stillman, T. F., & Gailliot, M. T. (2007). Violence restrained: Effects of self-regulation and its depletion on aggression. *Journal of Experimental Social Psychology*, 43(1), 62-76. doi: 10.1016/j.jesp.2005.12.005
- Gailliot, M. T., & Baumeister, R. F. (2007). Self-Regulation and Sexual Restraint: Dispositionally and Temporarily Poor Self-Regulatory Abilities Contribute to Failures at Restraining Sexual Behaviour. *Personality and Social Psychology Bulletin*, 33, 173-186. doi: 10.1177/0146167206293472
- Garcia, S. M., Weaver, K., Moskowitz, G. B., & Darley, J. M. (2002). Crowded minds: the implicit bystander effect. *Journal of Personality and Social Psychology*, 83, 843-853.
- Harris, C. R. (2000). Psychophysiological Responses to Imagined Infidelity: The Specific Innate Modular View of Jealousy Reconsidered. *Journal of Personality and Social Psychology*, 78(6), 1082-1091. doi: 10.1037//0022-3514.78.6.1082

- Hofmann, W., Friese, M., & Strack, F. (2009). Impulse and self-control from a dual-systems perspective. *Perspectives on Psychological Science*, 4(2), 162-176.
- Hofmann, W., Rauch, W., & Gawronski, B. (2007). And deplete us not into temptation: Automatic attitudes, dietary restraint, and self-regulatory resources as determinants of eating behaviour. *Journal of Experimental Social Psychology*, 43, 497-504.
- Hofmann, W., & Van Dillen, L. (2012). Desire: The New Hot Spot in Self-Control Research. *Current Directions in Psychological Science*, 21(5), 317-322.
- Job, V., Dweck, C. S., & Walton, G. M. (2010). Ego Depletion--Is It All in Your Head?: Implicit Theories About Willpower Affect Self-Regulation. *Psychological Science*, 21(11), 1686-1693. doi: 10.1177/0956797610384745
- Kavanagh, D. J., Andrade, J., & May, J. (2005). Imaginary Relish and Exquisite Torture: The Elaborated Intrusion Theory of Desire. *Psychological Review*, 112(2), 446-467.
- Love, S. (2006). Illicit Sexual Behaviour: A Test of Self-Control Theory. *Deviant Behaviour*, 27(5), 505-536. doi: 10.1080/01639620600781464
- Mehrabian, A. (1968). Relationship of attitude to seated posture, orientation, and distance. *Journal of Personality and Social Psychology*, 10(1), 26-30.
- Muraven, M., Collins, R. L., & Nienhaus, K. (2002). Self-Control and Alcohol Restraint: An Initial Application of the Self-Control Strength Model. *Psychology of Addictive Behaviours*, 16(2), 113-120.
- Ostovich, J. M., & Sabini, J. S. (2004). How are Sociosexuality, Sex Drive, and Lifetime Sexual Partners Related? *Personality and Social Psychology Bulletin*, 30(10), 1255-1266. doi: 10.1177/0146167204264754
- Penke, L., & Asendorpf, J. B. (2008). Beyond Global Sociosexual Orientations: A More Differentiated Look at Sociosexuality and Its Effects on Courtship and Romantic

- Relationships. *Journal of Personality and Social Psychology*, 95(5), 1113-1135. doi: 10.1037/0022-3514.95.5.1113
- Pronk, T. M., Karremans, J. C., & Wigboldus, D. (2011). How Can You Resist? Executive Control Helps Romantically Involved Individuals to Stay Faithful. *Journal of Personality and Social Psychology*, 100(5), 827-837. doi: 10.1037/a0021993
- Regan, P. C., & Bersched, E. (1996). Beliefs about the state, goals, and objects of sexual desire. *Journal of Sex and Marital Therapy*, 22(2), 110-120. doi: 10.1080/00926239608404915
- Rosenfeld, H. M. (1965). Effect of an approval-seeking induction on interpersonal proximity. *Psychological Reports*, 17, 120-122.
- Schmeichel, B. J., Harmon-Jones, C., & Harmon-Jones, E. (2010). Exercising self-control increases approach motivation. *Journal of personality and social psychology*, 99(1), 162-173. doi: 10.1037/a0019797
- Sommer, R. (1959). Studies in Personal Space. *Sociometry*, 22(3), 247-260.
- Spector, I. P., Carey, M. P. & Steinberg, L. (1996). The Sexual Desire Inventory: Development, Factor, Structure, and Evidence of Reliability. *Journal of Sex and Marital Therapy*, 22, 175-190.
- Stathi, S., & Crisp, R. J. (2008). Imagining intergroup contact promotes projection to outgroups. *Journal of Experimental Social Psychology*, 44, 943-957.
- Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High Self-Control Predicts Good Adjustment, Less Pathology, Better Grades, and Interpersonal Success. *Journal of Personality* 72, 271-324.
- Tice, D. M., Baumeister, R. F., Shmueli, D., & Muraven, M. (2007). Restoring the self: Positive affect helps improve self-regulation following ego depletion. *Journal of Experimental Social Psychology*, 43(3), 379-384. doi: 10.1016/j.jesp.2006.05.007

- Turner, R. N., Crisp, R. J., & Lambert, E. (2007). Imagining intergroup contact can improve intergroup attitudes. *Group Processes and Intergroup Relations*, 10, 427–441.
- Turner, R. N., & Crisp, R. J. (2010). Imagining intergroup contact reduces implicit prejudice. *The British Journal of Social Psychology*, 49, 129–142.
- Vohs, K. D., & Heatherton, T. F. (2000). Self-Regulatory Failure: A Resource-Depletion Approach. *Psychological Science*, 11(3), 249-254.
- Wills, T. A., Gibbons, F. X., Gerrard, M., Murry, V. M., & Brody, G. H. (2003). Family Communication and Religiosity Related to Substance Use and Sexual Behaviour in Early Adolescence: A Test for Pathways Through Self-Control and Prototype Perceptions. *Psychology of Addictive Behaviours*, 17(4), 312-323. doi: 10.1037/0893-164x.17.4.312

**Figure Legends**

*Figure 1.* Interaction between ego depletion and sexual desire predicting the distance between the participant and an attractive stranger in a drawing.

*Figure 2.* Interaction between ego depletion and sexual desire predicting reported intent to approach and flirt with an attractive stranger.

*Figure 3.* Interaction between ego depletion and sexual desire predicting the likelihood of infidelity in a hypothetical scenario.

Table 1.

*Hierarchical regressions of self-control (SC) and sexual desire predicting reported infidelity.*

Dependent Variables	B	S.E.	<i>p</i>
<i>Infidelity (Yes or No)</i>			
Regression 1			
Block 1			
SC	-.32	.20	.111
Desire	.00	.00	.741
Block 2			
SC x Desire	-.02	.01	.006
Regression 2 (simple slopes)			
High SC	-.01	.00	.074
Low SC	.01	.00	.042
Dependent Variables	$\beta$	<i>t</i>	<i>p</i>
<i>Infidelity Frequency</i>			
Regression 1			
Block 1			
SC	-.07	-.61	.541
Desire	.13	1.14	.259
Block 2			
SC x Desire	-.20	-1.91	.059
Regression 2 (simple slopes)			
High SC	-.08	-.50	.620
Low SC	.38	2.21	.030
<i>No. of extra pair partners</i>			
Regression 1			
Block 1			
SC	-.16	-1.50	.136
Desire	.22	2.07	.041
Block 2			
SC x Desire	-.22	-2.24	.028
Regression 2 (simple slopes)			
High SC	.00	-.02	.982
Low SC	.50	3.08	.003







